REMARKS

Applicants respectfully request entry of the above amendments and reconsideration of the following arguments pursuant to 37 C.F.R. § 1.111.

1. Status of the Claims

Applicants note that the Request for Continued Examination has bee accepted and entered.

Claims 1-16 stand pending. Claims 1-5 and 7-16 stand rejected. Claim 6 stands objected.

Upon entry of the present amendments, claims 1 and 15-16 stand amended, and claim 5 stands cancelled. Claims 1 and 15-16 as amended incorporate the claim element of claim 5.

Support for the amendments can be found at least, for example, from the originally filed claims and on page 10, lines 24-27 of the Specification. Applicants do not believe that the amendments add prohibited subject matter that is unsupported in the Specification as filed.

The claims have been amended without prejudice to, or disclaimer of, the cancelled subject matter. Applicants reserve the right to file a continuation or divisional application on any subject matter canceled by way of amendments.

2. Information Disclosure Statement

Applicants note with appreciation the acknowledgement of the Information Disclosure Statement filed February 6, 2009. Applicants submit herewith another Information Disclosure Statement, acknowledgement of which is respectfully requested with the Office's next communication.

3. Claim Rejections under 35 U.S.C. § 103(a)

3.1. Rejection of claim 1-4

The Office rejects claims 1-4 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,389,394 [hereinafter "**Weyersbach**"] as further evidenced by **Minifie**, "Chocolate, Cocoa and Confectionery," 2nd Ed., AVI Publishing Co., Inc., Westport CT, P. 69

(1980) [hereinafter "Minifie"] and in view of U.S. Patent No. 2,957,769 [hereinafter "**Rusoff**"] and U.S. Patent Nos. 4,758,444 or 4,871,562 [hereinafter "**Terauchi I or II**" respectively].

Weyersbach allegedly discloses extracting cocoa nibs with water at a temperature between 40°C and 100°C, *e.g.*, 73°C, for 2.5 hours. Office Action, page 2. The Office admits that the Weyersbach fails to teach or suggest a two-phase (solid-liquid) separation by centrifugation. Office Action, pages 2-3. The Office alleges that (1) the present application discloses use of strainers as an alternative to the centrifuge, and (2) the extraction method of Weyersbach is seen to be an obvious alternative to centrifuge. Office Action, page 3.[1] The Office attempts to apply Rusoff to cure the defect of Weyersbach as to the missing centrifuge element. *Id.* Additionally, Minifie purportedly teaches that the extraction temperature of 73°C, as disclosed in Weyersbach, is above the melting point of cocoa butter. *Id.* Furthermore, Terauchi I or II purportedly teaches that heated centrifuges were known in the art. *Id.* The Office then concludes that "[i]t would have been obvious to substitute the heated centrifuge of Terauchi [I or II] as an obvious alternative filtration system in Weyersbach." *Id.*

Applicants respectfully traverse the rejection to the extent it is applied to the amended claims. A finding of obviousness under 35 U.S.C. § 103 requires a determination of the scope and content of the prior art, the differences between the invention and the prior art, the level or ordinary skill in the art, and whether the differences are such that the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made. *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 82 U.S.P.Q.2d 1385 (2007).

When determining whether a claim is obvious, the Office must make "a searching comparison of the claimed invention–including all its limitations–with the teaching of the prior art." *In re Ochiai*, 71 F.3d 1565, 1572, 37 U.S.P.Q.2d 1127, 1133 (Fed. Cir. 1995). Further, "obviousness requires a suggestion of ***all*** limitations in a claim." *CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1342, 68 U.S.P.Q.2d 1940, 1947 (Fed. Cir. 2003) (citing *In re Royka*, 490 F.2d 981, 985, 180 U.S.P.Q. 580, 583 (C.C.P.A. 1974) (emphasis added). Once the scope and

[1] Applicants point out that the use of strainers is not pertinent, because it is not recited in the present claims.

content of the prior art are determined, the relevant inquiry is whether the prior art suggests the invention, and whether one of ordinary skill in the art would have had a reasonable expectation that the claimed invention would be successful. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); *Examination Guidelines for Determining Obviousness under 35 U.S.C. 103 in View of the Supreme Court Decision in* KSR International Co. v. Teleflex Inc., 72 Fed. Reg. 57,528.

Furthermore, the Office is not permitted to pick and choose between all the options and teachings presented by each of the references to arrive at the combination of limitations as presented in the claims. *See AKZO N.V. v. U.S. Int'l Trade Comm'n*, 808 F.2d 1471, 1781, 1 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1986) (one "cannot pick and choose among individual parts of assorted prior art references as a mosaic to recreate a facsimile of the claimed invention.").

Applicants' traversal is based on the following grounds. First, the Office fails to adduce a *prima facie* case of obviousness, because the combined references fail to suggest or teach all elements in present claims. Claim 1 as presently amended recites, *inter alia*, (1) ***a two-phase*** (solid-liquid) separation; (2) ***a homogenization step*** after removing insoluble solids; and (3) a method for obtaining a ***fat/oil-rich*** extract.

The Office admits that Weyersbach's teaching differs from the recited two-phase centrifuge for separation. Office Action, pages 2-3. Neither Minifie nor Rusoff teaches or suggest a two-phase separation. *See supra* for purported teaching of Minifie and Rusoff. Both Terauchi I and II, however, disclose three-phase separation. *See* Terauchi I, col. 1, lines 9-15 and Terauchi II, col. 1, lines 10-16. Accordingly, the secondary references fail to cure the defect.

Weyersbach does not teach or suggest a homogenization step after removing insoluble solids. Neither Minifie nor Rusoff teaches or suggests a homogenization step. *See supra* for purported teaching of Minifie and Rusoff. Moreover, the Office admits that homogenization is not taught in Terauchi I or II. Office Action, page 4. Accordingly, the secondary references fail to cure the defect.

At best, Weyersbach may teach "a water-soluble virtually ***fat-free*** extract from cocoa." Weyersbach, col. 1, lines 37-42 and 59-63 (emphasis added). However, claim 1 as amended recites an extraction method for a ***fat/oil-rich*** extract. None of the secondary references teaches

or suggests a fat/oil-rich extract. *See supra* for alleged teaching of each cited reference. Rusoff actually teaches removal of fat/oil from an extract. *See e.g.*, Rusoff, col. 2, line 72 to col. 3 line 3. Additionally, Rusoff explicitly states that water is the preferred extracting solvent to avoid extraction of fact. *See* Rusoff, col. 3, line 55-56. Both Terauchi I and II teach removing the fat/oil, *i.e.*, cacao butter, to obtain an extract. *See* Terauchi I, col. 6, lines 4-15 and Terauchi II, col. 5, lines 42-45. In the three-phase separation described in either Terauchi I or II, an extraction mixture is separated into a solid phase (insoluble solids), a water phase, and an oil phase (cacao fat/oil or cacao butter). The water phase does not or hardly contain cacao butter. Accordingly, the secondary references fail to cure the defect.

As discussed above, the Office fails to adduce a *prima facie* case of obviousness, because the combined references fail to suggest or teach all elements of the amended claim 1. *See Ochiai*, 71 F.3d at 1572, 37 U.S.P.Q.2d at 1133; *CFMT*, 349 F.3d at 1342, 68 U.S.P.Q.2d at 1947. Second, not all elements of the amended claim 1 are taught by the cited art. Thus, a skilled artisan would not have had a reasonable expectation that the claimed process would have been successful.

Accordingly, claim 1 as amended is non-obvious over the combined references, because (1) not all claim elements are taught, and (2) the Office has failed to evince that the combination would have been predicted to succeed. Dependent claims 2-4 are similarly non-obvious over the cited art, because they incorporate all elements from amended claim 1. Applicants respectfully request withdrawal of the rejection and allowance of claims 1-4.

3.2. Rejection of claims 1, 5, 8, and 11-16

The Office rejects claims 1, 5, 8, and 11-16 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Terauchi I or II alone or, if necessary, as further evidenced by Minifie.

Terauchi I or II allegedly disclose preparing extracts from cacao beans by:

1) shelling and cracking cacao beans to produce cacao nibs;
2) adding sodium carbonate and water, mixing and stirring at 90°C for one hour;
3) converting the mixture into a colloidal form;
4) extracting the water soluble portion of the cacao by centrifuge; and
5) concentrating the water soluble portion at 90°C.

Office Action, page 4. The Office relies upon Minifie for the assertion that the extraction temperature of 90°C, as disclosed in Terauchi I or II, is above the melting point of cocoa butter.

Id. Applicants previously have distinguished the present claims from Terauchi I or II by pointing out that Terauchi uses a three-phase separation, while claims 1 and 15-16 recite a two-phase separation. The Office discounts Applicants' prior arguments, asserting that "the cocoa butter would be expected to be as liquid in the centrifuge at 90°C." *Id.* Although the Office admits that homogenization is not mentioned in the cited art, the Office alleges that it would have been obvious to homogenize the cacao mixture of Terauchi I or II to prepare cocoa drinks. Office Action, pages 4-5.

Applicants respectfully traverse the rejection to the extent it is applied to the amended claims. The Office overlooks the differences between the present claims and Terauchi I and II. Independent claims 1 and 15-16 recite, *inter alia*, (1) removing insoluble solids by a ***two-phase (solid-liquid)*** separation, (2) ***homogenizing*** the extract after removing insoluble solids ; and (3) obtaining a ***fat/oil-rich*** cacao extract. Thus, the resultant phases are a liquid phase and a solid phase. The liquid phase contains the cacao fat/oil rich portion and is processed into a chocolate drink, whereas the insoluble solids are in the solid phase. The liquid phase is the subject to a homogenization step upon removal of insoluble solids. Both Terauchi I and II references teach separation by a ***three-phase separation*** and not a two-phase separation. Additionally, both Terauchi I and II references teach obtaining a water-soluble exact free of cocoa butter, which is ***not*** a fat/oil-rich portion. Moreover, neither Terauchi reference suggests a homogenization step.

As discussed in the SUMMARY OF THE INVENTION of both the Terauchi I ***and*** II references, the mixture is separated into three components:

1) a mixture of water-soluble portion and fine particle portion
2) cacao butter; and
3) an extraction residue.

The instant claims recite a two-phase separation. Minifie offers no suggestion for a two-phase separation in lieu of the three-phase taught in Terauchi I and II. Nor can Minifie offer a predictable expectation of success for using a two-phase process on cacao nibs, let alone that this two-phase separation would have yielded a better result. *See supra* for purported teaching of Minifie. Minifie fails to teach these limitations and fails to cure the defects present in Terauchi I and II. Thus the references when viewed alone, or in any combination, fail to render obvious the rejected claims. Accordingly, the combined references fail to suggest or teach all limitations in

present claims, and a *prima facie* case of obviousness has not been adduced. *See Ochiai*, 71 F.3d at 1572, 37 U.S.P.Q.2d at 1133; *CFMT*, 349 F.3d at 1342, 68 U.S.P.Q.2d at 1947. Additionally, the two-phase process as recited in present claims is commercially easier to separate than a three-phase process. This two-phase process insures the retention of cacao fat/oil or cacao butter in a cacao nib extract. *See infra*.

The present claims recite a homogenization step. Usually, if a cacao extract has a high content of cacao fat/oil, the fat or oil will easily separate out of the extract, or solidify in the exact. However, the chocolate drink produced by the present recited methods is stable, *i.e.*, the presently disclosed extract rich of cacao fat/oil remains one phase. This advantageous feature is achieved by homogenizing the fat/oil-rich cacao nib extract. *See* line 23 on page 10 to line 8 on page 11 of the Specification; *see also* Example 4 on pages 22-23 of the Specification. Although the Office admits that none of the cited references discloses a homogenization step, the Office alleges it is obvious for a skilled artisan to employ such a step. *See* Office Action, page 4; *see also supra* for purported teaching of Minifie. Accordingly, the Office's assertion amounts to improper hindsight, because the Office fails to provide any rationale. *See AKZO*, 808 F.2d at 1781 1 U.S.P.Q.2d at 1246.

Terauchi I teaches that the mixture (1) and the cacao butter (2), as discussed above, are used to produce chocolate drinks and chocolate respectively. *See* col. 6, lines 4-15. Only a mixture of the water-soluble portion and the fine particle portion are used to produce a chocolate drink in Terauchi I and II. The Terauchi patents do not teach the use of a cacao fat/oil to prepare a chocolate drink. In fact, at the time when the present invention was made, it was preferred to remove fat/oil from an extract to produce a chocolate drink. *See* line 4 on page 3 to line 6 on page 4 of the Specification ("obtaining a non-fat water-soluble extract free from cacao fat/oil" and "substantially free from cacao fat/oil").

Applicants direct the Office's attention to other places in these publications wherein the production of the chocolate drink is taught with a ***three-phase separation extract*** through the ***removal of the fat/oil from the extract.***

1) Terauchi I ('444 patent) – The FIELD OF THE INVENTION sets forth that the advantage of the invention is that an extraction of a water-soluble portion, a fine particle portion, and cacao butter portion. It does not teach or suggest a

two phase separation, but rather only the three phase separation. A two-phase separation, given that this three-phase separation is asserted as an advantage, would be a teaching away from Terauchi I.

2) Terauchi I ('444 patent) teaches at col. 4, lines 141-26 that the above three components are obtained from cacao mass or cocoa powder. At col. 4, lines 27-41, Terauchi I teaches that a mixture of the water-soluble portion and the fine particle portion is concentrated and dried. This dried product is then used to produce the chocolate drink. *See* col. 6, ll. 4-15. In contrast, the cacao butter is dehydrated. *See* col. 4, ll. 42-54. The ***dehydrated cacao butter*** then is used to produce chocolate, not a chocolate drink. *See* col. 6, ll. 4-15.

3) Examples 1-4 and Test Examples 2-3 of Terauchi I and II teach that a mixture of the water-soluble portion and the fine particle portion, while the cacao butter is obtained separately.

The claims are directed to preparing a cacao fat/oil rich chocolate drink, which is distinguishable from the separation of cacao butter from the water-soluble extract as taught by Terauchi I or II. The secondary reference Minifie fails to cure the defect of Terauchi I and II, because it does not teach or suggest a two-step process. *See supra* for alleged teaching of Minifie.

Furthermore, the only way the Office appears to achieve combining the elements from each of the cited references is through the hindsight roadmap presented by Applicants' own specification. As discussed above, the Office is not permitted to pick and choose between all the options and teachings presented by each of the references to arrive at the combination of limitations as presented in the claims. *See Graham*, 383 U.S. at 36, 148 U.S.P.Q. at 474; *AKZO*, 808 F.2d at 1781 1 U.S.P.Q.2d at 1246.

In view of the above arguments, Applicants submit that the Office fails to adduce a *prima facie* obviousness rejection. Independent claims 1 and 15-16, as presently amended, are thus non-obvious over the combined references. Claim 5 stand canceled, mooting the rejection. Dependent claims 8 and 11-14, which incorporate all claim element of amended claim 1, are similarly non-obvious. Applicants respectfully request withdrawal of the rejection, and allowance of claims 1, 8, and 11-16 .

4. Claim Rejection Under 35 U.S.C. § 112, Second Paragraph

The Office rejects claims 7 and 9-10 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. Specifically, the Office alleges that there is no antecedent basis for "the homogenization step" as recited in claims 7 and 9-10. Office Action, page 6.

Applicants have amended claim 1 to recite "a homogenization step." Support for the amendment can be found at least, for example, from the originally filed claims and lines 24-27 on page 10 of the Specification. Claims 7 and 9-10, all of which depend upon the amended claim 1, incorporate all elements from claim 1. Accordingly, there is proper antecedent basis for "the homogenization step" in claims 7 and 9-10. Applicants request withdrawal of the rejection, and allowance of claims 7 and 9-10.

5. Claim Objection

The Office objects to claim 6 for allegedly being dependent on a rejected base claim. Office Action, page 6. Applicants appreciate the Office's note that claim 6 is otherwise allowable. However, in light of the above argument, claim 1 as presently amended is in fact patentable over the cited references. Accordingly, Applicants respectfully request withdrawal of the objection and allowance of claim 6.

CONCLUSION

Should the Examiner have any questions or comments regarding Applicants' amendments or response, please contact Applicants' undersigned representative at (202) 842-8821. Furthermore, please direct all correspondence to the below-listed address.

In the event that the Office believes that there are fees outstanding in the above-referenced matter and for purposes of maintaining pendency of the application, the Office is authorized to charge the outstanding fees to Deposit Account No. 50-0573. The Office is likewise authorized to credit any overpayment to the same Deposit Account Number.

Respectfully submitted,
DRINKER, BIDDLE & REATH LLP

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Mercedes K. Meyer, Ph.D., Esq., Reg. No. 44,939

CUSTOMER NO. 55694
DRINKER, BIDDLE & REATH LLP
1500 K Street, N.W., Suite 1100
Washington, D.C. 20005-1209
Tel: (202) 842-8800
Fax: (202) 204-0289